

### ABSTRACT

A transmitting device, receiving device, and communication system are disclosed that are small and inexpensive, with a stable characteristic for generating a pulse waveform and using pulses with superior mass productivity. The transmitting device includes a continuous pulse generating unit, modulating unit, and output unit. The continuous pulse generating unit continuously generates multiple impulse waveforms at arbitrary time intervals but shorter than the pulse string repetition cycle. The modulating unit modulates continuous pulses generated by the continuous pulse generating unit, using transmission data. The output unit outputs a modulated pulse modulated by the modulating unit. The receiving device includes a modulated pulse receiving unit that receives a modulated pulse transmitted from the above-mentioned transmitting device; and a demodulating unit that receives transmission data by demodulating a modulated pulse received by the modulated pulse receiving unit.